

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims

1. **(currently amended)** An handheld assay reader for determining the presence of at least one luminescent label in ~~the~~ a capture zone of a lateral flow test strip of an assay device comprising:

a positioning member to hold the lateral flow test strip of the assay device in a reading position;

at least one light source which produces at least one fluorescence excitation signal at an appropriate wavelength to excite fluorescence from the at least one luminescent label when captured in said the capture zone when said the lateral flow test strip of the assay member device is in the reading position; and

at least one viewing window for direct observation by a user of the resulting at least one luminescence signal fluorescence from said the at least one luminescent label in said the capture zone.

2. **(currently amended)** An handheld assay reader according to claim 1, wherein said the light source is contained in a housing, the housing further containing the assay device when in the reading position, the at least one viewing window being positioned in the housing so as to provide for direct observation of the fluorescence emission signal from the at least one luminescent label in the capture zone of the assay device.

3. **(currently amended)** An handheld assay reader according to claim 1, wherein ~~the~~ each wavelength of the at least one fluorescence excitation signal is different from ~~the each~~ wavelength of the fluorescence from the at least one luminescent label emission signal.

4. **(currently amended)** An handheld assay reader according to claim 3, wherein ~~the~~ at least one wavelength of the at least one fluorescence excitation signal is greater than ~~the at least one~~ wavelength of the fluorescence from the at least one luminescent label emission signal.

5. **(currently amended)** An handheld assay reader according to claim 3, wherein ~~the~~ at least one wavelength of the at least one fluorescence excitation signal is less than ~~the at least one~~ wavelength of the fluorescence from the at least one luminescent label emission signal.

6. **(currently amended)** An handheld assay reader according to claim 3, further comprising at least one filter which blocks the passage of the at least one fluorescence excitation signal and allows the passage of the fluorescence from the at least one luminescent label emission signal through the at least one viewing window.

7. **(currently amended)** A ~~handheld~~ assay reader according to claim 6, wherein ~~said the~~ at least one filter is located on ~~said the~~ at least one viewing window.

8. **(currently amended)** A ~~handheld~~ assay reader according to claim 7, wherein ~~said the~~ at least one filter-viewing window is located in ~~said the~~ assay device.

9. **(currently amended)** A ~~handheld~~ assay reader according to claim 1 for determining the presence of a first and a second luminescent label in ~~said the~~ capture zone, said reader further comprising a first filter which blocks the passage of the fluorescence first emission signal from the first luminescent label and a second filter which blocks passage of the fluorescence a second emission signal from the second luminescent label.

10. **(currently amended)** A ~~handheld~~ assay reader according to claim 9, wherein the assay reader comprises one viewing window, and wherein the first and second filters can be exchanged between a first configuration, in which the first filter is positioned at said the viewing window and a second configuration, in which the second filter is positioned at said the viewing window.

11. **(currently amended)** A ~~handheld~~ assay reader according to claim 9, wherein the first filter is positioned at a first viewing window and the second filter is positioned at a second viewing window.

12. **(currently amended)** A ~~handheld~~ assay reader according to claim 1 for determining the presence of a first and a second luminescent label in said capture zone, said reader comprising a first light source which produces a first fluorescence excitation signal for exciting at an appropriate wavelength to excite the first luminescent label and a second light source which produces a second fluorescence excitation signal for exciting at an appropriate wavelength to excite the second luminescent label.

13. **(currently amended)** A ~~handheld~~ assay reader according to claim 12, wherein the first and second light sources can be exchanged between a first mode, in which the first fluorescence excitation signal is produced without the second fluorescence excitation signal, and a second mode, in which the second fluorescence excitation signal is produced without the first fluorescence excitation signal.

14. **(currently amended)** ~~A assay reader according to claim 9 adapted to determine the presence of three or more labels in the capture zone.~~ A handheld assay reader according to claim 1 for determining the presence of a plurality of luminescent labels in the capture zone, the reader further comprising a plurality of filters, each of which filters blocks the passage of the fluorescence from one of the plurality of luminescent labels.

15. – 16. **(canceled)**

17. **(currently amended)** A ~~handheld~~ assay reader according to claim 1, wherein ~~said the~~ viewing window comprises a lens.

18. **(currently amended)** A ~~handheld~~ assay reader according to claim 17, wherein ~~said the~~ lens is

~~shaped to adapt the image in said window~~adapts the fluorescence from the at least one luminescent label for observation.

19. **(currently amended)** An handheld assay reader according to claim 18, wherein said lens is shaped to magnify the ~~image~~ fluorescence from the at least one luminescent label~~in said window.~~

20. **(canceled)**

21. **(currently amended)** An handheld assay reader according to claim 1, wherein ~~said the at least one viewing~~ window comprises a nonreflective surface.

22. **(canceled)**

23. **(currently amended)** An handheld assay reader according to claim 1, wherein ~~said the at least one~~ light source is an ultra-violet light source and ~~said the at least one fluorescence~~ excitation signal ~~is~~comprises ultra-violet light.

24. **(currently amended)** An handheld assay reader according to claim 1, further comprising a battery connected to said light source.

25. **(currently amended)** An handheld assay reader according to claim 1, further comprising circuitry adapted to power the at least one light source in the presence of liquid in ~~said the~~ assay device.

26. **(currently amended)** An handheld assay reader according to claim ~~1~~24, further comprising circuitry to provide a fixed current from ~~said the~~ battery.

27. **(currently amended)** An handheld assay reader according to claim 1, wherein the assay reader and the assay device are separable.

28. **(currently amended)** An handheld assay reader according to claim 1, wherein the assay reader and the assay device are non-separable.

29. **(currently amended)** An handheld assay reader according to claim ~~1~~24, further comprising a control indicator to indicate sufficient battery power to generate the at least one fluorescence excitation signal.

30. **(currently amended)** An handheld assay reader according to claim 29, wherein ~~said the~~ control indicator ~~is~~ comprises an LED indicator ~~on an outer surface of said reader.~~

31. **(currently amended)** An handheld assay reader according to claim 29, wherein ~~said the~~ control indicator is an electro-chromic or thermo-chromic indicator ~~on an outer surface of said reader.~~

32. **(currently amended)** An handheld assay reader according to claim 29, wherein ~~said the~~ control indicator ~~is~~ comprises a fluorescent dye, which produces at least one control emission signal in response to the at least one fluorescence excitation signal.

33. **(currently amended)** A ~~an~~ handheld assay reader according to claim 1, wherein the assay device is a lateral flow immunoassay device.

34. **(currently amended)** A ~~an~~ handheld assay according to claim 1, wherein the assay device is a homogenous assay device.

35. **(currently amended)** An assay apparatus comprising an handheld assay reader according to claim 1, and one or more assay devices.

36. **(original)** An assay apparatus according to claim 35, wherein said one or more assay devices comprise a capture zone and one or more luminescent labels.

37. - 40. **(canceled)**

41. **(new)** An assay device for use in the handheld assay reader of claim 1, comprising a capture zone and at least one luminescent label.

42. **(new)** The assay device of claim 41, wherein the at least one luminescent label comprises a lanthanide metal ion.

43. **(new)** The assay device of claim 41, wherein the at least one luminescent label comprises a microsphere.

44. **(new)** The assay device of claim 41, wherein the at least one luminescent label comprises a chelate.